

CLAIMS

What is claimed is:

5 1. A network device for providing first compressed video data onto a network, the network device comprising:
an embedder apparatus having a first embedder portion which embeds first compressed video data having a first compressed format in a transmission bitstream having a second compressed format; and

10 10 a transmitter that transmits the transmission bitstream having the second compressed format, the transmission bitstream including the first compressed video data having the first compressed format.

15 15 2. The network device of claim 1 further comprising a format converter that converts the first compressed video data from a third compressed format to the first compressed format, the format converter including an output electronically coupled to the embedder apparatus.

20 20 3. The network device of claim 1 wherein the transmission bitstream includes second compressed video data.

4. The network device of claim 3 wherein the second compressed video data has the second compressed format.

25 5. The network device of claim 3 wherein the second compressed video data has a third compressed format and the embedder apparatus further comprises a second embedder portion which embeds the second compressed video data in the transmission bitstream.

30 6. The network device of claim 5 wherein the embedder apparatus further comprises a scheduler which selectively inserts the first compressed video data provided by the first embedder portion and the second compressed video data provided by the second embedder portion into the transmission bitstream.

7. The network device of claim 5 wherein the network device is configured to receive the second compressed video data in a fourth compressed format.

8. The network device of claim 7 further comprising a second format converter that
5 converts the format of the second compressed video data from the fourth compressed format, the output of the second format converter coupled to second embedder portion.

9. The network device of claim 8 wherein the second format converter converts the second compressed video data from the fourth compressed format to one of the first and
10 second compressed formats.

10. The network device of claim 8 wherein the second compressed video data comprises a descriptor information field that carries format conversion information that identifies the format of the one of the first and second compressed formats.

15 11. The network device of claim 1 wherein the first compressed format is one of wavelet, fractal, H.26X, Real Network, QuickTime and MPEG-4.

20 12. The network device of claim 1 wherein the second compressed format is one of MPEG-1 and MPEG-2.

13. The network device of claim 1 further including a bit rate converter for adapting the bit rate of compressed video data in the transmission bitstream.

25 14. The network device of claim 1 further including a network interface configured to receive the compressed video data from the network.

15. The network device of claim 14 wherein the network device is configured within a headend.

30 16. The network device of claim 1 further including a memory for storing the transmission bitstream including the compressed video data having the first compressed format.

17. The network device of claim 16 wherein the network device is configured within a general-purpose computer.

5 18. A network device for providing compressed video data onto a network, the network device comprising:

a compressed format converter that receives first compressed video data having a first compressed format and outputs the first compressed video data having a second compressed format; and

10 an embedder which receives the first compressed video data and second compressed video data and embeds one of the first compressed video data and second compressed video data into the other of the first compressed video data and second compressed video data; and

a transmitter configured to transmit the first and second compressed video data.

15 19. The network device of claim 18 further including a network interface configured to receive the compressed video data from the network.

20 20. The network device of claim 18 further comprising a second format converter for converting the second compressed video data to a third compressed format.

25 21. The network device of claim 19 wherein one of the first, second or third compressed formats is MPEG-2.

22. The network device of claim 18 wherein the compressed format converter includes an input that specifies the second compressed format, the input configured to receive a signal from a second network device downstream of the network device.

30 23. A method for providing compressed video data, the method comprising:
embedding compressed video data having a first compressed format in a transmission bitstream having a second compressed format; and
transmitting the transmission bitstream having the second compressed format and containing the compressed video data.

24. The method of claim 23 further comprising converting the compressed video data from a third compressed format to the first compressed format before embedding the compressed video data in the transmission bitstream.

25. The method of claim 24 wherein the converting is performed in real time by a network device having a network interface configured to receive the compressed video data having the third compressed format.

10 26. The method of claim 24 wherein the converting is performed in non-real time by a general-purpose computer.

15 27. The method of claim 26 further including storing the transmission bitstream having the second compressed format and containing the compressed video data.

28. The method of claim 23 wherein the transmission bitstream includes second compressed video data and further including transcoding the second compressed video data.

20 29. The method of claim 28 wherein the compressed video data is embedded in one of the program stream, transport stream, PES layer, and the private data in elementary stream layer of the MPEG-2 bitstream.

30. A network device for transmitting compressed video data, the network device comprising:

25 means for receiving the compressed video data in a first compressed format;

means for converting the compressed video data from the first compressed format to a second compressed format;

means for embedding the compressed video data having the second compressed

30 format in a transmission bitstream having a third compressed format; and

means for transmitting the transmission bitstream having the third compressed format, the transmission bitstream including the compressed video data having the second compressed format.

31. A computer readable medium including instructions for method for providing compressed video data, the instructions comprising:

instructions for embedding compressed video data having a first compressed format in a transmission bitstream having a second compressed format; and

5 instructions for transmitting the transmission bitstream having the second compressed format and containing the compressed video data.